

In the Claims:

Claims 1 – 14 (Cancelled)

15. (Currently amended) A composition solution for fabricating a composite membrane used for coating a substrate, the composition solution comprising, based on the final weight of the composition solution:

a water-insoluble polymer, in an amount of from about 5% to about 30%; and
a water-insoluble wax, in an amount of from about 0.1% to about 10%, having a melting point of from about 45°C to about 120°C, in a solvent; and
in a solvent.
wherein the solution is non-aqueous.

16. (Currently amended) The composition solution of claim 15, wherein the composition solution further comprises an ingredient selected from the group consisting of stearic acid, palmitic acid and stearyl alcohol, in an amount of from about 0.05% to about 5%.

17. (Currently amended) The composition solution of claim 15, wherein the composite membrane is fabricated by phase inversion technique.

18. (Currently amended) The composition solution of claim 15, wherein the water-insoluble polymer is in an amount of from about ~~from about~~ 8% to about 25%.

19. (Currently amended) The composition solution of claim 15, wherein the water-insoluble wax is in an amount of from about 0.2% to about 5%, having a melting point of from about 50°C to about 80°C.

20. (Currently amended) The ~~composition solution~~ of claim 15, wherein the water-insoluble polymer is selected from the group consisting of cellulose acetate butyrate, cellulose acetate propionate, cellulose acetate and ethylcellulose.

21. (Currently amended) The ~~composition solution~~ of claim 15, wherein the water-insoluble polymer is selected from the group consisting of polysulfone and polyacrylonitrile-co-butadiene-co-styrene.

22. (Currently amended) The ~~composition solution~~ of claim 15, wherein the water-insoluble wax is selected from the group consisting of beeswax, carnauba wax and candelilla wax.

23. (Cancelled)

24. (Currently amended) The ~~composition solution~~ of claim 15, wherein the solvent is selected from the group consisting of dimethylformamide, dimethylacetamide and ethanol.

25. (Currently amended) The ~~composition solution~~ of claim 15, wherein the solvent is selected from the group consisting of acetone, butanone, chloroform, benzene, toluene and acetic acid.

26. (Currently amended) The ~~composition solution~~ of claim 15, wherein the solvent is phosphoric acid.

27. (Currently amended) A method for fabricating a composite membrane on a surface of a substrate, comprising:

dissolving a mixture of a water-insoluble polymer, and a water-insoluble ~~polymer~~ wax in an organic solvent to give a solution;

removing air bubbles from the solution to give a final solution;
casting the final solution onto the surface of the substrate; and

curing the surface of the substrate having the final solution thereon to give a composite membrane on the surface of the substrate.

28. (Currently amended) The method of claim 27, wherein the substrate is selected from the group consisting of a starch based food package material, a protein based food package materials material, a natural fabric, a synthetic fabric, and a paper product.

29. (Currently amended) A composition solution for fabricating a composite membrane used for coating a substrate, the composition solution comprising, based on the final weight of the composition solution:

- from about 3% to about 7% of beeswax;
- from about 10% to about 14% of cellulose acetate butyrate;
- from about 0.6% to about 1% of 1-octadecanol; and
- from about 80% to about 84% of butanone.

30. (Currently amended) The composition solution of claim 29, wherein the substrate is selected from the group consisting of a starch based food package material, a protein based food package materials material, a natural fabric, a synthetic fabric, and a paper product.

31. (Currently amended) A method for fabricating a composite membrane on a surface of a substrate, comprising, based on the final weight of the composition:

mixing from about 1% to about 5% of beeswax, from about 7% to about 11% of cellulose acetate butyrate, and from about 86% to about 90% of a 1 to 4 mixture of acetone and butanone to give a composition;

heating the composition to a temperature of from about 60°C to about 70°C for a period of from about 10 minutes to about 20 minutes to obtain a uniform solution;

keeping the uniform solution at a temperature of from about 60°C to about 70°C for a period of from about 1 hour to about 5 hours to give a solution relatively free of air bubbles;

applying the solution relatively free of air bubbles on the surface of the substrate to give a pre-coated substrate;

heating the pre-coated substrate to a temperature of from about 60°C to about 75°C for a period of from about 1 minute to about 10 minutes to give a heated substrate; and

cooling the heated substrate to give a coated substrate.

32. (Original) The method of claim 31, further comprising heating the coated substrate to a temperature of from about 60°C to about 75°C for a period of from about 1 minute to about 7 minutes.

33. (Currently amended) The method of claim 31, wherein the substrate is selected from the group consisting of a starch based food package material, a protein based food package materials material, a natural fabric, a synthetic fabric, and a paper product.

34. (Currently amended) A method for controlling transmembrane transport of a liquid or a gas through a composite membrane, the composite membrane being fabricated from a composition solution, the composition solution comprising, based on the final weight of the composition solution, a water-insoluble polymer, in an amount of from about 3% to about 50%, and a water-insoluble wax, in an amount of from about 0.001% to about 20%, dissolved in a solvent, wherein the solution is non-aqueous, the method comprising:

adjusting the ratio of the water-insoluble wax to the water-insoluble polymer in the composition solution.

35. (Original) The method of claim 34, wherein the composite membrane is being coated on a substrate.

36. (Currently amended) The method of claim 35, wherein the substrate is selected from the group consisting of a starch based food package material, a protein based food package materials material, a natural fabric, a synthetic fabric, and a paper product.

37. (Currently amended) The method of claim 35 34, wherein the liquid comprises water.
38. (Currently amended) The method of claim 35 34, wherein the gas is selected from the group consisting of water vapor, nitrogen, and oxygen.